References

Espoo's Itäranta is being renovated sustainably



Uponor involvement

- Ultra Classic Blue sewer pipes in diameter of 160–400 mm | IQ Blue stormwater pipes in diameters of 560 and 680 mm | Profuse RC Blue pressure pipes in diameter of 250–400 mm

Espoo's Itäranta is being renovated sustainably

HSY (Helsinki Region Environmental Services HSY) is testing a new kind of area renovation operating model in Itäranta, Espoo, where the aim is to get the area's water supply network in order once and for all. New steps are also being taken towards more sustainable construction: the selected Uponor Blue pipes utilising renewable raw materials will reduce the carbon footprint of pipeline installations by 70% compared to traditional plastic pipes.
HSY (Helsinki Region Environmental Services HSY) started the water supply renovation of Tapiola's Itäranta in autumn 2023, and the entire renovation work in the area will be completed during 2024. During the project, the aim is to renovate the potable water pipes, wastewater and stormwater sewers as well as the plot lines at the same time.

"The water supply and sewer network in the area is already in poor condition and the capacity of stormwater sewers is insufficient to meet current requirements. The project also prepares for the growth of Espoo's building stock. For example, several new tower blocks are being built in Keilaniemi, so additional capacity is needed for the water supply to meet the growing water consumption," says Ilpo Korhonen, Head of Network Projects at HSY.

Both the water supply and sewer network will be renovated over a distance of about one kilometre, and at the same time a new stormwater network will be built for less than one kilometre. Approximately 20 properties have joined the network section to be renovated.

"In addition to trunk lines, HSY renovates all plot lines that are more than 20 years old in the street area, and property owners are offered financial incentives if they renovate their own plot lines in connection with HSY's contract. A similar operating model was also tested a few years ago in Marttila in Helsinki. The Itäranta project is a follow-up pilot with which we will gain more experience of the operating model.

No compromise on quality

Experience in Itäranta is also gained from completely new kinds of pipe materials. For the first time, HSY uses pipes from the sustainable Blue product family developed by Uponor, which help to significantly reduce the carbon footprint of pipe installations. Many of Uponor's well-known products are available in sustainable Blue versions, and the product range is constantly expanding.

"In Itäranta, the carbon footprint will be reduced by 70 per cent when Uponor's traditional Ultra Classic drains, IQ stormwater

drains and Profuse RC pressure pipes were replaced with similar Blue products," says Esa Taskinen, Area Sales Manager at Uponor.

He emphasizes that in terms of operational characteristics, quality and standards, Blue products are completely equivalent to pipes made of traditional materials.

"Of course, this was also a prerequisite for HSY. Especially when it comes to materials or products that are new to us, it is absolutely essential that their quality and durability can be trusted. Uponor is a familiar partner to us for decades, with whom it is safe to try new innovations," says Ilpo Korhonen.

"It is clear that quality cannot be compromised when pipes have to last underground for 50–100 years. It is not in anyone's interest to start digging up pipes in a few years' time, Esa Taskinen points out.

Pipe choices for sustainable development

The carbon footprint of the innovative Blue pipes has been significantly reduced by using raw material for pipe manufacturing, more than half of which comes from renewable, certified raw material sources. The solution has been developed in collaboration with Borealis, one of the world's leading suppliers of circular polyolefin solutions.

The manufacture of pipes is based on a certified mass balance system. It is a reliable, transparent way to measure and report the quality and quantity of recycled or bio-based raw materials used in manufacturing when combined with fossil raw materials.

The entire supply chain of renewable raw material is traceable, which is ensured by the prestigious ISCC certificate.
– After ordering a Blue product, the customer always receives a certificate of the amount of renewable raw material in the product and a carbon footprint calculation made at the site, says Esa Taskinen.

The Blue pipes to be delivered to Itäranta will be manufactured at Uponor's Nastola plant, which has been awarded an ISCC certificate. "The transport distance from the factory to the construction site is short, which also reduces the carbon footprint of pipe deliveries.

Pilot project builds experience

Korhonen says that HSY has extensively investigated the possibility of using different recycled materials for the Itäranta project.
"When we heard from Uponor about Blue Pipelines using renewable raw materials, we decided that this would be a good pilot project for them. The length of the contract is also such that we gain experience in installing pipes in both summer and winter conditions.

HSY, which is responsible for water supply services for more than one million residents in the Helsinki metropolitan area, aims to be carbon neutral by 2030.

"Pipe products that reduce the carbon footprint offer one new way to reduce the environmental load. Such products are the solutions of the future. In water supply, the most sustainable solution is, of course, that the lines are made so well and with such good products that they do not need to be touched for the next hundred years.

Lightweight pipes easy to install

HSY's long-term partner VM Suomalainen Oy is responsible for contracting the project.
Site Manager Aleksi Aaltonen says that the project has progressed smoothly.

"The trunk lines will be completed during the summer, after which we will renew the street structures and lighting. Our subcontractor is responsible for the completion of the plot lines during this year.
The environment has brought a small special feature to the project: Itäranta is a significant built cultural environment as part

of Tapiola's original garden city. The valuable building stock from the 1950s and 60s is to be protected also during the renovation, so the necessary excavations have been carried out by wedging instead of blasting.

"We were not familiar with Uponor's Blue pipes. However, they are no different from traditional plastic pipes, so there has been nothing miraculous in the installations. The installers have praised the fact that the installation of lightweight Ultra Classic Blue sewers made of polypropylene is smoother than the heavier PVC sewers most often used in Espoo.

Project Facts:

Location	Completion
Espoo, Finland	2024
Building Type	**Product systems**
Municipal	Drainage, Potable water, Sewer, waste water treatment, Sewer Municipal, Storm water

Partners

Contractor: VM Suomalainen
Designer: AFRY
Investor: HSY

Tapiola Itäranta, Espoo















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